

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:  
**Salvatore Albani**  
Serial No: Not yet assigned  
Filed: Herewith  
**For: METHODS FOR ISOLATION,  
QUANTIFICATION, CHARACTERIZATION  
AND MODULATION OF ANTIGEN-SPECIFIC T  
CELLS**

**SUBMISSION OF SEQUENCE LISTING**

Commissioner for Patents  
Washington, D.C. 20231

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Brobeck, Phleger & Harrison LLP

Dated: 1/29/04

By

  
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## SEQUENCE LISTING

<110> Albani, Salvatore

<120> METHODS FOR ISOLATION, QUANTIFICATION,  
CHARACTERIZATION AND MODULATION OF  
ANTIGEN-SPECIFIC T CELLS

<130> 031544.0004.CIP

<140> NOT YET ASSIGNED

<141> 2001-01-09

<150> 60/105,018

<151> 1998-10-20

<150> 09/421,506

<151> 1999-10-19

<150> PCT/US99/2466

<151> 1999-10-19

<160> 24

<170> FastSEQ for Windows Version 4.0

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<211> 17

<212> PRT

<213> Artificial Sequence

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<223> Synthesized peptide derived from third hyper V  
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<210> 2

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthesized peptide derived from bole I protein  
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<220>  
<223> Synthesized peptide derived from the hemophilus influenza virus

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<210> 4  
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<213> Artificial Sequence

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<223> Synthesized peptide derived from the TCR receptor gene of Mus musculus

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Arg Leu  
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<210> 5  
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<213> Artificial Sequence

<220>  
<223> Synthesized peptide derived from the influenza virus

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1 5

<210> 6  
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<220>  
<223> Synthesized peptide derived from the influenza virus

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Val Lys Leu Gly Glu Phe Tyr Asn Gln  
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<210> 7  
<211> 11  
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<213> Artificial Sequence

<220>  
<223> Synthesized peptide totally artificial

<220>  
<223> Xaa in position 2 stands for cyclohexylalanine

<400> 7  
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<210> 8  
<211> 13  
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<213> Artificial Sequence

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<223> Synthesized peptide derived from the influenza virus

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<212> PRT  
<213> Artificial Sequence

<220>  
<223> Synthesized peptide derived from the ovalbumin  
of *Mus musculus*

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1 5 10 15  
Arg

<210> 10  
<211> 15  
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<213> *E. coli*

<220>  
<223> dnaJpl heat shock protein

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<210> 11  
<211> 15  
<212> PRT  
<213> Homo sapiens

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<213> Homo sapiens

<400> 12  
Gly Ile Leu Gly Phe Val Phe Thr Leu  
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<210> 13  
<211> 9  
<212> PRT  
<213> Homo sapiens

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<210> 14  
<211> 13  
<212> PRT  
<213> Homo sapiens

<400> 14  
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<210> 15  
<211> 313  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Fusion constructs with human and bacterial sequences

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Ser Gly Val Ile His Val Thr Lys Glu Val Lys Glu Val Ala Thr Leu

35	40	45
Ser Cys Gly His Asn Val Ser Val Glu Glu Leu Ala Gln Thr Arg Ile		
50	55	60
Tyr Trp Gln Lys Glu Lys Lys Met Val Leu Thr Met Met Ser Gly Asp		
65	70	75
Met Asn Ile Trp Pro Glu Tyr Lys Asn Arg Thr Ile Phe Asp Ile Thr		
85	90	95
Asn Asn Leu Ser Ile Val Ile Leu Ala Leu Arg Pro Ser Asp Glu Gly		
100	105	110
Thr Tyr Glu Cys Val Val Leu Lys Tyr Glu Lys Asp Ala Phe Lys Arg		
115	120	125
Glu His Leu Ala Glu Val Thr Leu Ser Val Lys Ala Asp Phe Pro Thr		
130	135	140
Pro Ser Ile Ser Asp Phe Glu Ile Pro Thr Ser Asn Ile Arg Arg Ile		
145	150	155
Ile Cys Ser Thr Ser Gly Gly Phe Pro Glu Pro His Leu Ser Trp Leu		
165	170	175
Glu Asn Gly Glu Glu Leu Asn Ala Ile Asn Thr Thr Val Ser Gln Asp		
180	185	190
Pro Glu Thr Glu Leu Tyr Ala Val Ser Glu Phe Gly Gly Ser Gly Gly		
195	200	205
Ser Ala Thr Pro Gln Asn Ile Thr Asp Leu Cys Ala Glu Tyr His Asn		
210	215	220
Thr Gln Ile His Thr Leu Asn Asp Lys Ile Phe Ser Tyr Thr Glu Ser		
225	230	235
Leu Ala Gly Lys Arg Glu Met Ala Ile Ile Thr Phe Lys Asn Gly Ala		
245	250	255
Thr Phe Gln Val Glu Val Pro Gly Ser Gln His Ile Asp Ser Gln Lys		
260	265	270
Lys Ala Ile Glu Arg Met Lys Asp Thr Leu Arg Ile Ala Tyr Leu Thr		
275	280	285
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305	310	

&lt;210&gt; 16

&lt;211&gt; 942

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Fusion constructs with human and bacterial sequences

&lt;400&gt; 16

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 gaagtaccag gtatcaaca tatagattca caaaaaaaaaag cgattgaaag gatgaaggat 840  
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 <211> 1056  
 <212> DNA  
 <213> Artificial Sequence

<220>  
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 <211> 351  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Fusion constructs with human and bacterial sequences

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 Pro Cys Gln Phe Ala Asn Ser Gln Asn Gln Ser Leu Ser Glu Leu Val  
 35 40 45  
 Val Phe Trp Gln Asp Gln Glu Asn Leu Val Leu Asn Glu Val Tyr Leu  
 50 55 60  
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 65 70 75 80  
 Ser Phe Asp Ser Asp Ser Trp Thr Leu Arg Leu His Asn Leu Gln Ile  
 85 90 95

Lys Asp Lys Gly Leu Tyr Gln Cys Ile Ile His His Lys Lys Pro Thr  
 100 105 110  
 Gly Met Ile Arg Ile His Gln Met Asn Ser Glu Leu Ser Val Leu Ala  
 115 120 125  
 Asn Phe Ser Gln Pro Glu Ile Val Pro Ile Ser Asn Ile Thr Glu Asn  
 130 135 140  
 Val Tyr Ile Asn Leu Thr Cys Ser Ser Ile His Gly Tyr Pro Glu Pro  
 145 150 155 160  
 Lys Lys Met Ser Val Leu Leu Arg Thr Lys Asn Ser Thr Ile Glu Tyr  
 165 170 175  
 Asp Gly Ile Met Gln Lys Ser Gln Asp Asn Val Thr Glu Leu Tyr Asp  
 180 185 190  
 Val Ser Ile Ser Leu Ser Val Ser Phe Pro Asp Val Thr Ser Asn Met  
 195 200 205  
 Thr Ile Phe Cys Ile Leu Glu Thr Asp Lys Thr Arg Leu Leu Ser Ser  
 210 215 220  
 Pro Phe Ser Ile Glu Leu Glu Asp Pro Gln Pro Pro Pro Asp His Glu  
 225 230 235 240  
 Phe Gly Gly Ser Gly Gly Ser Ala Thr Pro Gln Asn Ile Thr Asp Leu  
 245 250 255  
 Cys Ala Glu Tyr His Asn Thr Gln Ile His Thr Leu Asn Asp Lys Ile  
 260 265 270  
 Phe Ser Tyr Thr Glu Ser Leu Ala Gly Lys Arg Glu Met Ala Ile Ile  
 275 280 285  
 Thr Phe Lys Asn Gly Ala Thr Phe Gln Val Glu Val Pro Gly Ser Gln  
 290 295 300  
 His Ile Asp Ser Gln Lys Lys Ala Ile Glu Arg Met Lys Asp Thr Leu  
 305 310 315 320  
 Arg Ile Ala Tyr Leu Thr Glu Ala Lys Val Glu Lys Leu Cys Val Trp  
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 Asn Asn Lys Thr Pro His Ala Ile Ala Ile Ser Met Ala Asn  
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<210> 19  
 <211> 31  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Peptides

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 20 25 30

<210> 20  
 <211> 30  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> peptides

<400> 20  
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 20 25 30

<210> 21  
 <211> 1095  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Fusion constructs with human and bacterial sequences

<400> 21  
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 <212> PRT  
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 35 40 45  
 Phe Asp Phe Asp Gly Asp Glu Ile Phe His Val Asp Met Ala Lys Lys  
 50 55 60  
 Glu Thr Val Trp Arg Leu Glu Glu Phe Gly Arg Phe Ala Ser Phe Glu  
 65 70 75 80  
 Ala Gln Gly Ala Leu Ala Asn Ile Ala Val Asp Lys Ala Asn Leu Glu  
 85 90 95  
 Ile Met Thr Lys Arg Ser Asn Tyr Thr Pro Ile Thr Asn Val Pro Pro  
 100 105 110  
 Glu Val Thr Val Leu Thr Asn Ser Pro Val Glu Leu Arg Glu Pro Asn  
 115 120 125  
 Val Leu Ile Cys Phe Ile Asp Lys Phe Thr Pro Pro Val Val Asn Val  
 130 135 140  
 Thr Trp Leu Arg Asn Gly Lys Pro Val Thr Thr Gly Val Ser Glu Thr  
 145 150 155 160  
 Val Phe Leu Pro Arg Glu Asp His Leu Phe Arg Lys Phe His Tyr Leu  
 165 170 175  
 Pro Phe Leu Pro Ser Thr Glu Asp Val Tyr Asp Cys Arg Val Glu His  
 180 185 190  
 Trp Gly Leu Asp Glu Pro Leu Leu Lys His Trp Glu Phe Asp Ala Pro  
 195 200 205  
 Ser Pro Leu Pro Glu Thr Thr Glu Glu Phe Gly Gly Ser Gly Gly Ser  
 210 215 220  
 Ala Gln Leu Glu Trp Glu Leu Gln Ala Leu Glu Lys Glu Asn Ala Gln  
 225 230 235 240  
 Leu Glu Trp Glu Leu Gln Ala Leu Glu Lys Glu Leu Ala Gln Gly Gly  
 245 250 255  
 Ser Gly Gly Ser Ala Thr Pro Gln Asn Ile Thr Asp Leu Cys Ala Glu  
 260 265 270  
 Tyr His Asn Thr Gln Ile His Thr Leu Asn Asp Lys Ile Phe Ser Tyr  
 275 280 285  
 Thr Glu Ser Leu Ala Gly Lys Arg Glu Met Ala Ile Ile Thr Phe Lys  
 290 295 300  
 Asn Gly Ala Thr Phe Gln Val Glu Val Pro Gly Ser Gln His Ile Asp  
 305 310 315 320  
 Ser Gln Lys Lys Ala Ile Glu Arg Met Lys Asp Thr Leu Arg Ile Ala  
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 Tyr Leu Thr Glu Ala Lys Val Glu Lys Leu Cys Val Trp Asn Asn Lys  
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 Thr Pro His Ala Ile Ala Ala Ile Ser Met Ala Asn  
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 <211> 861  
 <212> DNA  
 <213> Artificial Sequence

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 <223> Fusion constructs with human and bacterial sequences

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<210> 24  
 <211> 285  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Fusion constructs with human and bacterial sequences

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 35 40 45  
 Gly Thr Glu Arg Val Arg Phe Leu Asp Arg Tyr Phe Tyr His Gln Glu  
 50 55 60  
 Glu Tyr Val Arg Phe Asp Ser Asp Val Gly Glu Tyr Arg Ala Val Thr  
 65 70 75 80  
 Glu Leu Gly Arg Pro Asp Ala Glu Tyr Trp Asn Ser Gln Lys Asp Leu  
 85 90 95  
 Leu Glu Gln Lys Arg Ala Ala Val Asp Thr Tyr Cys Arg His Asn Tyr  
 100 105 110  
 Gly Val Gly Glu Ser Phe Thr Val Gln Arg Arg Val Tyr Pro Glu Val  
 115 120 125  
 Thr Val Tyr Pro Ala Lys Thr Gln Pro Leu Gln His His Asn Leu Leu  
 130 135 140  
 Val Cys Ser Val Asn Gly Phe Tyr Pro Gly Ser Ile Glu Val Arg Trp  
 145 150 155 160  
 Phe Arg Asn Gly Gln Glu Glu Lys Thr Gly Val Val Ser Thr Gly Leu  
 165 170 175  
 Ile Gln Asn Gly Asp Trp Thr Phe Gln Thr Leu Val Met Leu Glu Thr  
 180 185 190  
 Val Pro Arg Ser Gly Glu Val Tyr Thr Cys Gln Val Glu His Pro Ser  
 195 200 205  
 Leu Thr Ser Pro Leu Thr Val Glu Trp Arg Ala Arg Ser Glu Ser Ala  
 210 215 220  
 Gln Ser Lys Gly Gly Ser Gly Ser Ala Gln Leu Lys Lys Lys Leu  
 225 230 235 240  
 Gln Ala Leu Lys Lys Asn Ala Gln Leu Lys Gln Lys Leu Gln Ala  
 245 250 255  
 Leu Lys Lys Lys Leu Ala Gln Gly Ser Gly Ser Ala Gly Gly Gly  
 260 265 270  
 Leu Asn Asp Ile Phe Glu Ala Gln Lys Ile Glu Trp His  
 275 280 285